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/David J. McKenzie/

Attorney for Applicant

PATENT

Docket No.SJO920000160US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Lille	)
		)
Serial No.:	09/933,218	)
		)
Conf. No.:	6404	) Group Art
		) Unit: 2656
		)
Filed:	20 August 2001	)
		)
For:	<b>ELECTRO-THERMAL MICROMECHANICAL ACTUATOR FOR FINITELY POSITIONING A STORAGE DEVICE SLIDER AND METHODS OF USE AND MANUFACTURE</b>	)
Examiner:	Tianjie Chen	

**AMENDMENT AND RESPONSE TO FINAL OFFICE ACTION**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant wishes to express appreciation for the time and effort spent by the Examiner in considering the application. In response to the Office Action mailed on 2 May 2006, Applicant respectfully presents the following amendments and cancellation of Claims which address the concerns raised by the Examiner.

## **AMENDMENTS**

### **Amendments to Specification**

None

### **Amendments to the Drawings**

None

### **Amendments to Claims**

Please replace the Claims with the following amended claims.

1-10 (Canceled)

11. (Currently amended) A micromechanical actuator for a storage device, comprising:
- a read/write slider;
  - a movable member formed as an integral part of the read/write slider; and
  - an electro-thermal actuator element in contact with the movable member, to effect relative positioning of the read/write slider,
- wherein the movable member further comprises a proximal end and a distal end, the proximal end integrally attached to the slider body and the distal end free-standing with respect to the slider body,
- and, wherein the movable member further comprises an integral, elongated portion of the slider body defined at the distal end by a leading edge of the slider body, defined at a top end by the top of the slide body, defined at a bottom by a trench having the shape of a curved plane extending laterally through the slider body and extending from a first side member to a second side, the movable member attached at the proximal end to the slider body.

12 – 16. (Canceled)

17. (Currently Amended) The micromechanical actuator of claim ~~16~~ 11, further comprising a hole disposed substantially at the proximal end of the movable member, the hole defining a narrow neck in the rear of the movable member.

18-24 (Canceled)

25. (Previously presented) A micromechanical actuator for a storage device, comprising:  
a read/write slider;  
a movable member formed as an integral part of the read/write slider; and  
an electro-thermal actuator element in contact with the movable member, to effect  
relative positioning of the read/write slider,  
wherein the movable member further comprises a proximal end and a distal end, the  
proximal end integrally attached to the slider body and the distal end free-standing  
with respect to the slider body and  
wherein the movable member further comprises a lithographically defined tongue-shaped  
region etched out of a face of a body of the read/write slider.

26. (Previously presented) The micromechanical actuator of claim 25, wherein the movable member further comprises an integral, elongated portion of the slider body defined at the distal end by a leading edge of the slider body, defined at a top end by the top of the slide body, defined at a bottom by a trench having the shape of a curved plane extending laterally through the slider body and extending from a first side member to a second side, the movable member attached at the proximal end to the slider body.

27. (Previously presented) The micromechanical actuator of claim 26, further comprising a hole disposed substantially at the proximal end of the movable member, the hole defining a narrow neck in the rear of the movable member.

28. (Previously presented) The micromechanical actuator of claim 25, wherein the electro-thermal actuator element further comprises an electro-thermal heater element placed substantially on the movable member.

29. (Previously presented) The micromechanical actuator of claim 28, wherein the electro-thermal heater element comprises first and second leads extending in two substantially parallel directions on the movable member, the first lead extending along a first side of the movable member and the second lead extending along a second side of the movable member, the first lead.

30. (New) A micromechanical actuator for a storage device, comprising:

a read/write slider;

a movable member formed as an integral part of the read/write slider; and

an electro-thermal actuator element in contact with the movable member, to effect

relative positioning of the read/write slider,

wherein the electro-thermal actuator element further comprises an electro-thermal heater

element placed substantially on the movable member, and

wherein the electro-thermal heater element comprises first and second leads extending in

two substantially parallel directions on the movable member, the first lead

extending along a first side of the movable member and the second lead extending

along a second side of the movable member, the first lead.

### **REMARKS**

[001] The Office Action cites the following art: JP 4-221474A to *Ogawa, et al* (hereinafter *Ogawa*); U.S. Patent Number 5,184,265 to *Foote, et al* (hereinafter *Foote*); and U.S. Patent Number 6,391,216 to *Nakatani* (hereinafter *Nakatani*).

[002] Claims 1-29 are pending in the case. Claims 1, 10, 11, 20, and 25 are independent claims. Claims 11, 13, 14, and 18 are rejected under 35 USC § 102(b) as unpatentable over *Ogawa*. Claim 12 is rejected under 35 USC § 103(a) as unpatentable over the combination of *Ogawa, Foote, and Nakatani*.

[003] Applicant amended Claims 11 and 17 and presents new Claim 30. In addition, Applicant cancels Claims 1-10, 15-16, and 18-24. No new matter has been added.

[004] Unless otherwise noted, references in this Office Action Response to the present invention refer to the published version of the application, referenced by the first inventor's name: U.S. Publication Number US 2003-0035237 A1 to *Lille* (hereinafter *Lille*).

[005] The Applicant submits the attached amendments and remarks and respectfully requests that the rejections be withdrawn and that the Claims be allowed.

### **REMARKS CONCERNING AMENDMENTS OF CLAIMS**

[006] In the Office Action mailed May 2, 2006 the Examiner allowed Claims 25-29 and objected to Claims 15-17, and 19.

[007] Claims 25-29 are presented unchanged. Since Claim 25 already substantially incorporates the limitations of Claim 15, Claim 15 is canceled.

[008] Claim 11 incorporates the limitations previously found in former Claim 16.

[009] Claim 17 incorporates the limitations of Claim 16 and now depends from amended Claim 11.

[010] New Claim 30 incorporates the limitations previously found in Claim 19.

[011] Thus, the two amended claims and the one new claim incorporate the limitations from the objected to Claims 16, 17, and 19. No new matter was added as the precise wording of the otherwise allowable Claims 16-19 are now found in Claims 11, 17, 19, and 30, respectively.

[012] Note that application now has a total of 3 independent claims, Claims 11, 25, and 30. Additionally, application now has 5 dependent claims, Claims 17, 26-29. Applicant believes that the new claim and the amendments require no additional fees.

### **CONCLUSION**

[013] In the prior Office Action, mailed May 2, 2006, the Examiner allowed Claims 25-29 and objected to Claims 15-17, and 19 only because they did not depend from allowable independent claims. While Applicant acknowledges that entry of amendments after a Final Office Action is not a matter of right (See MPEP §714.13(II)), amendments are permitted to place the case in condition for allowance. Applicant has amended Claims 11 and 17 and presented new Claim 30 to incorporate the limitations of the objected to claims and has canceled all other non-allowed claims.

[014] In view of the foregoing, Applicant submits that the application is in condition for allowance. In the event any questions or issues remain that can be resolved with a phone call, Applicant respectfully requests that the Examiner initiate a telephone conference with the undersigned.

Date: July 27, 2006

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Respectfully submitted,

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